

CLAIMS

1. An amino acid sequence comprising the sequence presented as Formula I or a
5 variant, homologue, fragment or derivative thereof.
2. An amino acid sequence comprising the sequence presented as Formula I.
3. A nucleotide sequence encoding the amino acid sequence as defined in claim 1 or
10 claim 2.
4. A nucleotide sequence comprising the sequence presented as SEQ ID NO:2 or
SEQ ID No. 4 or SEQ ID No. 6 or a variant, homologue, fragment or derivative thereof.
- 15 5. A nucleotide sequence comprising the sequence presented as SEQ ID NO:2 or
SEQ ID NO:4 or SEQ ID NO:6.
6. A nucleotide sequence that is capable of hybridising to the nucleotide sequence
according to any one of claims 3 to 5.
- 20 7. A nucleotide sequence that is capable of hybridising to the nucleotide sequence
according to claim 6.
8. A vector comprising the nucleotide sequence according to any one of claims 3 to 7.
- 25 9. A host cell into which has been incorporated the nucleotide sequence according to
any one of claims 3 to 7.
10. An assay method for identifying an agent that can affect PDE_XIV activity or
30 expression, the assay method comprising

contacting an agent with an amino acid according to claim 1 or claim 2 or a nucleotide sequence according to any one of claims 3 to 7; and

35 measuring the activity or expression of PDE_XIV;

wherein a difference between a) PDE activity or expression in the absence of the agent and b) PDE activity or expression in the presence of the agent is indicative that the agent can affect PDE_XIV activity or expression.

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11. An assay method according to claim 10 wherein the assay is to screen for agents useful in the treatment of disorders found in any one or more of the putamen, the Caudate nucleus of the brain, the Occipital lobe of the brain, the heart, ovary, the pituitary gland, kidney, liver, small intestine, thymus, skeletal muscle, leukocyte regions, dorsal root 10 ganglia, uterus, cochlea, small intestine (duodenum), astrocytoma, and appendix.

12. A process comprising the steps of:

(a) performing the assay according to claim 10 or claim 11;

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(b) identifying one or more agents that do affect PDE_XIV activity or expression; and

(c) preparing a quantity of those one or more identified agents.

20 13. A method of affecting *in vivo* PDE_XIV activity or expression with an agent;

wherein the agent is capable of affecting PDE_XIV activity or expression in an *in vitro* assay method;

25 wherein the *in vitro* assay method is the assay method defined in claim 10 or claim 11.

14. Use of an agent in the preparation of a pharmaceutical composition for the treatment of a disease or condition associated with PDE_XIV, the agent is capable of having an effect on the activity or expression of PDE when assayed *in vitro* by the assay method according to 30 claim 10 or claim 11.

15. An enzyme capable of having an immunological reaction with an antibody raised against PDE_XIV.

16. A nucleotide sequence coding for a PDE, wherein the nucleotide sequence is obtainable from NCIMB 40995 or NCIMB 40996 or NCIMB 41027.

17. A PDE wherein the PDE is expressable from a nucleotide sequence obtainable from
5 NCIMB 40995 or NCIMB 40996 or NCIMB 41027.

18. Use of an agent which has an effect on the activity of PDE_XIV or the expression thereof in the preparation of a pharmaceutical composition for the treatment of a disease or condition associated with PDE_XIV.

10 19. Use of a PDE_XIV gene and/or expression product thereof in the preparation of a medicament for the treatment and/or modulation of disturbances associated with an imbalance or disturbance of PDE_XIV.

15 20. Use according to claim 19 wherein the PDE_XIV and/or expression product thereof is used to screen for agents that can modulate the activity of the PDE_XIV and/or expression product thereof.

21. A PDE_XIV agonist wherein the PDE_XIV is as defined in claim 1 or is the
20 nucleotide sequence coding for same.

22. A PDE_XIV antagonist wherein the PDE_XIV is as defined in claim 1 or is the nucleotide sequence coding for same.

25 23. A recombinant PDE_XIV enzyme.

24. A recombinant nucleotide sequence encoding a PDE_XIV enzyme.

25. A PDE_XIV enzyme substantially as described herein.